

LOCAL FLORAS OF THE SOUTHWEST, 1920-1980: AN ANNOTATED BIBLIOGRAPHY

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ABSTRACT.— Local floras, that is, plant lists for relatively small areas, are widely scattered, often unpublished, and difficult to locate. Over 100 local floras from the southwestern United States (Arizona, Colorado, Nevada, New Mexico, and Utah) are listed and briefly annotated.

Much of the southwestern United States is well known botanically. Comprehensive, statewide floristic manuals have been prepared for Arizona (Tidestrom and Kittell 1941, Kearney and Peebles 1942, 1960), Colorado (Harrington 1954), New Mexico (Martin and Hutchins 1981), the Sonoran Desert (Shreve and Wiggins 1964), the Mojave Desert (Jaeger 1941), Utah (Welsh and Moore 1973), and the Intermountain Region (Holmgren and Reveal 1966, Tidestrom 1925, Cronquist et al. 1972, 1977). Floristic studies on a smaller scale have also contributed to knowledge about plant distribution in the Southwest, but these briefer works are often unpublished and difficult to locate. Botanical bibliographies such as those compiled by Ewan (1936) and Schmutz (1978) for Arizona, Hoffman and Tomlinson (1966) for Colorado, Christensen (1967a, 1967b) for Utah, and U.S. Fish and Wildlife Service (1977a, 1977b, 1977c) for Colorado, Utah, and New Mexico have not emphasized local floras.

The objective of this paper is to provide a list of readily accessible local floras for the Southwest, including Arizona, New Mexico, Utah, Nevada, and Colorado. Only plant lists intended to be more or less complete floras are included. Lists restricted to single life forms (such as cacti, woody plants, fungi, or ephemerals) are not included, nor are manuals that cover state-sized regions. Only the most recent flora for an area is listed. Both published and unpublished floras are included, with the reservation that unpublished lists must be readily accessible, either from the responsible agency or through the interlibrary

loan programs of major universities. Floras published before 1920 are not included because they are seldom complete and can be difficult to locate. Arizona floras discussed by Bowers (1981) are included here as bibliographic citations only.

ARIZONA

- AITCHISON, S. W. 1978. Oak Creek Canyon and the red rock country of Arizona: a natural history and trail guide. Flagstaff, AZ: Stillwater Canyon Press.
- AITCHISON, S. W., AND M. E. THEROUX. 1974. A biotic inventory of Chevelon Canyon, Coconino and Navajo counties, Arizona. Flagstaff, AZ: U.S. Forest Service, Sitgreaves National Forest.
- BENNETT, P. S. 1978. Vascular plants, Grand Canyon National Park, Grand Canyon, AZ: Grand Canyon Computer Center. Available from Western Archaeological Center, 1415 N. 6th Ave., Tucson, AZ.
- BOHRER, V. L., AND M. BERGSENG. 1963. An annotated catalogue of plants from Window Rock, Arizona. Window Rock, AZ: Navajo Tribal Museum.
- BOWERS, J. E. 1980. Flora of Organ Pipe Cactus National Monument. *J. Arizona-Nevada Acad. Sci.* 15:1-11, 33-47.
- BROTHERSON, J. D., G. NEBEKER, M. SKOUGARD, AND J. FAIRCHILD. 1978. Plants of Navajo National Monument. *Great Basin Nat.* 38:19-30.
- BURGESS, R. L. 1965. A checklist of the vascular flora of Tonto National Monument. *J. Arizona Acad. Sci.* 3:213-223.
- BUTTERWICK, M., P. FISCHER, D. HILLYARD, AND D. DUCOTE. 1980. Annotated checklist of vascular plants collected in the Harcuvvar, Vulture and Skull Valley planning units. Phoenix, AZ: U.S. Dept. of the Interior, Bureau of Land Management. Available from Bureau of Land Management, Phoenix District Office, 2929 W. Clarendon Ave., Phoenix, AZ.
- BUTTERWICK, M., D. HILLYARD, AND B. PARFITT. 1979. Annotated list of taxa of vascular plants collected

¹Office of Arid Lands Studies, University of Arizona, Tucson, Arizona 85721.

- in the Hualapai-Aquarius environmental impact statement area. Phoenix, AZ: U.S. Dept. of the Interior, Bureau of Land Management. Available from Bureau of Land Management, Phoenix District Office, 2929 W. Clarendon Ave., Phoenix, AZ.
- FAY, J. M. 1978. Vegetation and flora of the Patagonia-Sonoita Creek Sanctuary, Patagonia, Arizona. Tucson, AZ: Arizona Natural Heritage Program. Available from Arizona Natural Heritage Program, 30 N. Tucson Blvd., Tucson, AZ.
- HALSE, R. R. 1973. The flora of Canyon de Chelly National Monument. Tucson, AZ: Univ. of Arizona. Unpublished thesis.
- HAZEN, J. M. 1978. The flora of Bill Williams Mountain. Flagstaff, AZ: Univ. of Northern Arizona. Unpublished thesis.
- HOLLAND, J. S., W. E. NILES, AND P. J. LEARY. Vascular plants of the Lake Mead National Recreation Area. Las Vegas, NV: Univ. of Nevada, Dept. of Biological Sciences. Lake Mead Tech. Rep. No. 3.
- JOYCE, J. F. 1976. Vegetational analysis of Walnut Canyon, Arizona. *J. Arizona Acad. Sci.* 11:127-135. Updates Spangle (1953).
- KEIL, D. J. 1973. Vegetation and flora of the White Tank Mountain Regional Park, Maricopa County, Arizona. *J. Arizona Acad. Sci.* 8:35-48.
- LANE, M. A. 1981. Vegetation and flora of McDowell Mountain Regional Park, Maricopa County, Arizona. *J. Arizona-Nevada Acad. Sci.* 16:29-38.
- LEHTO, E. 1970. A floristic study of Lake Pleasant Regional Park, Maricopa County, Arizona. Tempe, AZ: Arizona State Univ. Unpublished thesis.
- LEITHLITER, J. R. 1980. Vegetation and flora of the Chiricahua Wilderness Area. Tempe, AZ: Arizona State Univ. Unpublished thesis. Lists 300 taxa for 72.8 km². Reviews history of the area; describes topography, geology, soils and climate. Compares vegetation of study area to that of nearby mountain ranges. Annotations of the plant list include synonymy, common names, relative abundance, vegetation type, habitat, elevational range, phenology, and collection numbers. Provides small-scale topographic and geologic maps.
- MCCULLOCH, C. Y., AND C. P. PASE. 1968. Pages 77-88 in Checklist of plants of the Three Bar Wildlife Area. Arizona Game and Fish Dept. Wildlife Research in Arizona 1967. Phoenix, AZ: Arizona Game and Fish Dept.
- MCDUGALL, W. B. 1959. Typical seed plants of the ponderosa pine zone. Flagstaff, AZ: Museum of Northern Arizona. Bulletin No. 32.
- . 1959. Plants of the Glen Canyon area in the herbarium of the Museum of Northern Arizona. Flagstaff, AZ: Museum of Northern Arizona. Available from Museum of Northern Arizona, Flagstaff, AZ.
- MCDUGALL, W. B. 1962. Seed plants of Wupatki and Sunset Crater National Monuments. Flagstaff, AZ: Museum of Northern Arizona. Bulletin No. 37.
- MCDUGALL, W. B., AND H. S. HASKELL. 1960. Seed plants of Montezuma Castle National Monument. Flagstaff, AZ: Museum of Northern Arizona. Bulletin No. 35.
- MCGILL, L. A. 1979. Vascular flora. Pages 56-83 in W. L. Minckley; Sommerfeld, M. R., eds., Resource inventory for the Gila River Complex, eastern Arizona. Safford, AZ: U.S. Dept. of the Interior, Bureau of Land Management. Available from Bureau of Land Management, Safford District Office, 425 E. 4th St., Safford, AZ.
- MCLAUGHLIN, S. P. 1978. Productivity of the understory community in an Arizona ponderosa pine forest. Tucson, AZ: Univ. of Arizona. Unpublished dissertation.
- MCLAUGHLIN, S. P., AND W. VAN ASDALL. 1977. Flora and vegetation of the Rosemont area. Pages 64-98 in R. Davis, and J. R. Calahan, eds., An environmental inventory of the Rosemont area in southern Arizona. Vol. 1. Tucson, AZ: Univ. of Arizona. Deposited at Univ. of Arizona, Science Library, Tucson, AZ.
- PASE, C. P., AND R. R. JOHNSON. 1968. Flora and vegetation of the Sierra Ancha Experimental Forest, Arizona. Fort Collins, CO: U.S. Forest Service, Rocky Mountain Forest and Range Experiment Station. Research Paper No. 41.
- PAULIK, L. A. 1979. A vascular flora of the subalpine spruce-fir forest of the San Francisco Peaks, Arizona. Flagstaff, AZ: Northern Arizona Univ. Unpublished thesis.
- PETRIFIED FOREST NATIONAL PARK. 1976. Seed plant checklist of Petrified Forest National Park. Available from Petrified Forest National Park, Arizona 86028.
- PHILLIPS, A. M. III. 1975. Flora of the Rampart Cave area, lower Grand Canyon, Arizona. *J. Arizona Acad. Sci.* 10:148-159.
- PIERCE, A. L. 1979. Vegetation and flora of Buckeye Hills Recreation Area, Maricopa County, Arizona. Tempe, AZ: Arizona State Univ. Unpublished thesis. Lists 175 taxa for 1500 ha. Reviews history of the area; describes climate, topography, geology, and soils. Discusses vegetation, listing important species for each plant community. Compares flora to that of six other regional parks in Maricopa County. Annotations of the plant list include plant community, relative abundance, and regional distribution. Provides soil and topographic maps, photographs of plant communities.
- REEVES, T. 1976. Vegetation and flora of Chiricahua National Monument, Cochise County, Arizona. Tempe, AZ: Arizona State Univ. Unpublished thesis.
- SCHAAK, C. G. 1970. A flora of the arctic-alpine vascular plants of the San Francisco Mountain, Arizona. Flagstaff, AZ: Northern Arizona Univ. Unpublished thesis.
- SCHILLING, M. A. 1980. A vegetational survey of the Volunter and Sycamore Canyon region. Flagstaff, AZ: Northern Arizona Univ. Unpublished thesis. Volunter and Sycamore Canyons are located in southern Coconino County.
- SCHMUTZ, E. M., C. C. MICHAELS, AND B. I. JUDD. 1967. Boysag Point: a relict area on the North Rim of the Grand Canyon in Arizona. *J. Range Manage.* 20:363-369.
- SIMMONS, N. M. 1966. Flora of the Cabeza Prieta Game Range. *J. Arizona Acad. Sci.* 4:93-104.

- SMITH, E. L. 1974. Phelps Cabin Research Natural Area. Pages 127-133 in E. L. Smith, Established natural areas in Arizona: a guidebook for scientists and educators. Phoenix, AZ: Office of Economic Planning and Development.
- SPANGLE, P. F. 1953. A revised checklist of the flora of Walnut Canyon National Monument. Plateau 26:86-88.
- SUNDELL, E. G. 1974. Vegetation and flora of the Sierra Estrella Regional Park, Maricopa County, Arizona. Tempe, AZ: Arizona State Univ. Unpublished thesis.
- TOOLIN, L. J. 1979. A floral survey of Thomas Canyon, Baboquivari Mountains, Pima County, Arizona. Tucson, AZ: Arizona Natural Heritage Program. Available from Arizona Natural Heritage Program, 30 N. Tucson Blvd., Tucson, AZ.
- . 1980. Final report on the flora of Ramsey Canyon. Tucson, AZ: Arizona Natural Heritage Program. Available from Arizona Natural Heritage Program, 30 N. Tucson Blvd., Tucson, AZ. Ramsey Canyon is in the Huachuca Mountains, Cochise County.
- TOOLIN, L., T. R. VAN DEVENDER, AND J. M. KAISER. 1980. The flora of Sycamore Canyon, Pajarito Mountains, Santa Cruz County, Arizona. J. Arizona-Nevada Acad. Sci. 14:66-74.
- TURNER, R. M. 1977. Plant species list: Tumamoc Hill. Tucson, AZ: U.S. Geological Survey. Available from USGS Research Project Office, 301 W. Congress, Tucson, AZ. Tumamoc Hill is in the Tucson Mountains, Pima County.
- WADLEIGH, R. 1969. Plant list for Tucson Mountain District of Saguaro National Monument. Tucson, AZ: Saguaro National Monument. Available from Saguaro National Monument, Rt. 9, Box 595, Tucson, AZ.
- WARREN, P. L., AND L. S. ANDERSON. 1980. Annotated checklist of plants of the George Whittell Wildlife Preserve. Pages 80-124 in T. B. Johnson, ed., 1980 progress report for the biological survey of the George Whittell Wildlife Preserve, Graham and Pinal counties, Arizona. Tucson, AZ: Arizona Natural Heritage Program. Available from Arizona Natural Heritage Program, 30 N. Tucson Blvd., Tucson, AZ.
- WELSH, S. L., N. D. ATWOOD, AND J. R. MURDOCK. Kaiparowits flora. Great Basin Nat. 38:125-179.
- YATSKIEVYCH, G. A. 1980. Plant list for O'Donnell Canyon, Canelo Hills, Santa Cruz County, Arizona. Tucson, AZ: Arizona Natural Heritage Program. Available from Arizona Natural Heritage Program, 30 N. Tucson Blvd., Tucson, AZ.
- YATSKIEVYCH, G. A., AND C. E. JENKINS. 1981. Fall vegetation and zonation of Hooker Cienega, Graham County, Arizona. J. Arizona-Nevada Acad. Sci. 16:7-11.
- information. Includes glossary of botanical terms. *Fide* Donald J. Pinkava, Arizona State Univ.
- BRADLEY, R. A. W. 1950. The vascular flora of Moffat County, Colorado. Boulder, CO: Univ. of Colorado. Thesis. Lists 511 taxa for 1,231,606 ha; annotations of the plant list include collector, collection location and number, elevation, and habitat. Describes topography, history of plant collection; discusses vegetation zones. Lists plants occurring in Colorado only in Moffat County. Includes location map of study area and photos of vegetation types.
- COLORADO NATIONAL MONUMENT. 1980. Plants recorded from Colorado National Monument. Fruita, CO: Colorado National Monument. Available from Colorado National Monument, Fruita, CO. Lists 347 taxa for 8276 ha; plant list annotated with common names.
- COX, C. F. 1933. Alpine plant succession on James Peak, Colorado. Ecol. Monographs 3:299-372. Lists 292 taxa. Discusses geology and physiography, climate, effects of grazing and fire, and history of botanical collection. Describes plant communities, with species lists for each. Discusses endemic and disjunct species, floristic affinities of the flora, and ecology of alpine plants.
- HLINA, P. 1980. Preliminary list of vascular plants, Great Sand Dunes National Monument. Alamosa, CO: Great Sand Dunes National Monument. Available from Great Sand Dunes National Monument, Box 60, Alamosa, CO. Lists 252 taxa for 15,764 ha; plant list annotated with common names.
- HOLM, T. H. 1923. The vegetation of the alpine region of the Rocky Mountains in Colorado. Mem. Nat. Acad. Sci. 19:1-45. Lists 170 taxa; annotations of plant list include relative abundance, habitat, elevation, and collection localities. Discusses geographical distribution of the species, origins of the flora, vegetation zones. Provides location map.
- LANGENHEIM, J. H. 1955. Flora of the Crested Butte Quadrangle, Colorado. Madroño 13:64-78. Lists 579 taxa for 25,907 ha; annotations of plant list include collection numbers and species collected outside the study area. Discusses geographical affinities of the flora and describes vegetation zones.
- LITZINGER, W. 1976. Annotated checklist of vascular plants of Cajon Mesa, Colorado-Utah. Pages 387-432 in J. C. Winter, ed., Hovenweep 1975. San Jose, CA: San Jose State Univ. Archaeological Report No. 2. Lists 258 taxa. The study area includes Hovenweep National Monument. Annotations include common names, habit, local distribution, habitat, phenology, and relative abundance.
- MCNEAL, D. W. 1976. Annotated checklist of the alpine vascular plants of Specimen Mountain, Rocky Mountain National Park, Colorado. Southwestern Naturalist 20:423-435. Lists 178 taxa; annotations of the plant list include relative abundance, collection numbers, habitat, elevational range, and phenology. Discusses topography, climate; describes alpine habitats.

COLORADO

- BARRELL, J. 1969. Flora of the Gunnison Basin, Gunnison, Saguache, and Hinsdale counties, Colorado: a study in the distribution of plants. Lists 1062 taxa. Annotated with detailed distributional

- NELSON, R. A. 1976. Plants of Rocky Mountain National Park. Washington, D.C.: Government Printing Office. Available from Rocky Mountain National Park, Estes Park, CO. Lists 850 taxa; annotations include common names, species descriptions, habitat, local distribution, elevational range, ethnobotanical notes. Provides keys to species and many photographs of plants and habitats. Includes location map and glossary of botanical terms.
- VORIES, K. C. 1974. A vegetation inventory and analysis of the Piceance Basin and adjacent drainages. Gunnison, CO: Western State College of Colorado. Unpublished thesis. Lists 413 taxa for 416,000 ha; annotations of plant list include local distribution, common names, habit, nativity, rare or endangered status. Discusses physiography, climate, and land use. Quantitative analysis of plant communities is discussed in detail. Provides small-scale vegetation maps, many photographs of plant communities.
- WELSH, S. L., AND J. A. ERDMAN. 1964. Annotated checklist of the plants of Mesa Verde, Colorado. Brigham Young Univ. Sci. Bull., Bio. Ser. 4(2):1-32. Lists 411 taxa for 51,813 ha; annotations of the plant list include collection location and number, collector, common names, relative abundance, habitat, local distribution, phenology, and plants found in prehistoric ruins. Briefly discusses topography and history of plant collection.
- WEBER, W. A. 1976. Rocky Mountain flora. 5th ed. Boulder, CO: Univ. of Colorado Press. Lists 1600 taxa; annotations include common names, relative abundance, habit, and brief species descriptions. Reviews botanical collection; describes plant communities; discusses plant geography of the Rocky Mountains. Provides keys to species, glossary of botanical terms; includes small-scale location map and photographs and line drawings of many species.
- geology, defines alpine zone. Discusses endemism and species diversity, compares flora to that of other Great Basin alpine regions. Analyzes geographic affinities of the flora.
- BRADLEY, W. G. 1967. A geographical analysis of the flora of Clark County, Nevada. J. Arizona Acad. Sci. 4:151-162. Lists 887 taxa. Discusses geographical affinities and origins of the flora.
- CLOKEY, I. 1951. Flora of the Charleston Mountains, Clark County, Nevada. Berkeley, CA: Univ. of California Press. Lists 699 taxa for 170,000 ha; annotations include habitat, associated species, phenology, local distribution, geographical range, elevational range, collector and collection number, synonymy, type locality. Describes botanical collection, geology, climate; discusses endemism, geographical affinities of the flora. Contains keys to species.
- FREEMAN, J., AND J. L. MAHONEY. 1977. Geothermal areas in Nevada: the distribution of vascular plants near the thermal springs surveyed. *Mentzelia* 3:8-14. Lists 125 taxa; annotations of plant list include collection locations, relative abundance. Includes small-scale location map.
- HOLMGREN, A. H. 1942. Handbook of the vascular plants of northeastern Nevada. Logan, UT: Utah State Agricultural College. Lists 1205 taxa; annotations include common names, forage value, local and regional distribution, habitat, relative abundance, synonymy, and elevational range. Discusses botanical exploration, climate, physiography. Includes keys to species.
- LEWIS, M. C. 1976. Flora of Santa Rosa Mountains. Ogden, Utah: U.S. Forest Service. Available from Intermountain Region, U.S. Forest Service, Ogden, UT. Lists 347 taxa; annotations of plant list include plant community and collection location. Describes plant communities.
- LINSDALE, M. A., J. T. HOWELL, AND J. M. LINSDALE. 1952. Plants of the Toiyabe Mountains area, Nevada. *Wasmann J. Bio.* 10:129-200. Lists 521 taxa; annotations of plant list include collection date, location, and number, geographic range, and elevation. Discusses climate, distribution of some major shrub and tree species, geographic affinities of the flora. Compares flora to that of the Charleston Mountains. Includes photographs of plant communities, location map.

NEVADA

- BEATLEY, J. C. 1976. Vascular plants of the Nevada Test Site and central-southern Nevada: ecologic and geographic distributions. Springfield, VA: National Technical Information Center. Lists 1093 taxa for 24,500 km²; annotations include relative abundance, habitat, plant community, common names, local distribution, elevational range, habit, and phenology. Discusses history of botanical collection; describes physiography, geology, soils, and climate. Describes plant communities, listing dominants. Correlates plant communities with topography and environmental variables. Includes many photographs of plant communities, small-scale maps showing physiographic and political features and vegetation types.
- BELL, K. L., AND R. E. JOHNSON. 1980. Alpine flora of the Wassuk Range, Mineral County, Nevada. *Madroño* 27:25-35. Lists 70 taxa for 260 ha; annotations of plant list include habitat, relative abundance, and regional distribution. Discusses

NEW MEXICO

- BEDKER, E. J. 1966. A study of the flora of the Manzano Mountains. Albuquerque, NM: Univ. of New Mexico. Unpublished thesis. Lists 396 taxa; plant list annotated with collection locations. Discusses topography, climate, geology, soils and life zones; describes 17 study sites in the Manzano Mountains in terms of location, geological features, soils, plant communities, and dominant species. Provides keys to species, location map, and photographs of plant communities. Compares flora to that of Mount Taylor, discusses species distribution in relation to environmental factors.

- CAMPBELL, R. S., AND I. F. CAMPBELL. 1938. Vegetation on gypsum soils of the Jornada Plain, New Mexico. *Ecology* 19:572-577. Lists 8 taxa based on 10 years of observation and collection. Discusses climate, soil chemistry, and soil physical properties in relation to the depauperate flora and sparse vegetation.
- CAPULIN MOUNTAIN NATIONAL MONUMENT. 1980. Plant checklist: Capulin Mountain National Monument, New Mexico. Capulin, NM: Capulin Mountain National Monument. Available from Capulin Mountain National Monument, Capulin, NM. Lists 172 taxa for 310 ha; plant list annotated with common names.
- CHACO CANYON NATIONAL MONUMENT. 1979. Checklist of plants for Chaco Canyon National Monument, New Mexico. Bloomfield, NM: Chaco Canyon National Monument. Available from Chaco Culture National Historical Park, Star Rt. 4, Box 6500, Bloomfield, NM. Lists 247 taxa for 8705 ha; plant list annotated with common names and introduced species. The list is currently being updated by Anne Cully.
- FLETCHER, R. A. 1972. A floristic assessment of the Datil Mountains. Albuquerque, NM: Univ. of New Mexico. Unpublished thesis. Lists 590 taxa for 82,902 ha; annotations include common names, phenology, elevational range, parent material, life form, relative abundance, geographical range, forage value, poisonous properties, and taxonomic comments. Lists noteworthy collections, major collection sites, and birds and mammals observed in the area. Discusses land use, topography, geology, soils, and climate. Describes plant associations. Analyzes geographic affinities of the flora, compares flora to those of neighboring states, compares affinities and species richness of floras on different substrates.
- FOSBERG, F. R. 1940. The aestival flora of the Mesilla Valley region, New Mexico. *American Midland Naturalist* 23:573-593. Lists 504 taxa; annotations of plant list include plant community and habitat. Describes plant communities and habitat; discusses topography and climate. Includes small-scale vegetation map.
- GEHLBACH, F. R., B. H. WARNOCK, W. C. MARTIN, AND H. K. SHARSMITH. 1969. Vascular plants of Carlsbad Caverns National Park, New Mexico, and adjacent Guadalupe Mountains (New Mexico-Texas). Carlsbad, NM: Carlsbad Caverns National Park. Available from Carlsbad Caverns National Park, NM. Lists 640 taxa for 18,921 ha; annotations of plant list include common names, habit, and phenology.
- HALL, H. H., AND S. FLOWERS. 1961. Vascular plants found in the Navajo Reservoir Basin, 1960, Colorado and New Mexico. Pages 47-90 in A. M. Woodbury, ed., *Ecological studies of the flora and fauna of Navajo Reservoir, Colorado and New Mexico*. Salt Lake City, UT: Univ. of Utah. Anthropological Paper No. 55. Lists 287 taxa for 6880 ha; annotations include common names, elevation, relative abundance, collector, and collection location and date.
- HUTCHINS, C. R. 1974. A flora of the White Mountains area, southern Lincoln and northern Otero counties, New Mexico. Albuquerque, NM: C. R. Hutchins. Lists 1686 taxa; location map provided; annotations include synonymy, phenology, species descriptions, elevational range, habitat, and common names. Provides keys to species and glossary of botanical terms. Discusses topography and climate. Lists subalpine taxa.
- LITTLE, E. L., JR., AND R. S. CAMPBELL. 1943. Flora of Jornada Experimental Range, New Mexico. *Amer. Midl. Naturalist* 30:626-670. Lists 528 taxa for 78,265 ha; annotations include geographic range of species, Raunkiaer life form. Discusses history of botanical collection, geographic affinities of flora, distinctive species. Compares floristic composition and plant cover of the Jornada plain with nearby mountain meadows; discusses forage value of various species. Lists weeds. Provides location map and photographs of vegetation types and plants.
- MACKAY, H. A. 1970. A comparative floristic study of the Rio Hondo Canyon-Lake Fork-Wheeler Peak locale, New Mexico, and the Huerfano River-Blanco Peak locale, Colorado. Albuquerque, NM: Univ. of New Mexico. Unpublished dissertation. Lists 359 taxa for Rio Hondo locale, 467 taxa for Huerfano River locale; annotated with elevational ranges of each species. Discusses floristic differences between the two locales and describes vegetation zones. Collection sites are described in terms of topographic location, elevational range, and characteristic species. Describes geology and topography. Provides keys to species, vegetation maps at 1:63,000, photographs of vegetation types.
- MANTHEY, G. T. 1977. A floristic analysis of the Sevilleta Wildlife Refuge and the Ladron Mountains. Albuquerque, NM: Univ. of New Mexico. Unpublished thesis. Lists 728 taxa. Annotations of plant list include plant community, common name, phenology, and elevational range. Describes topography, geology, climate, soils, and land use. Discusses floristic affinities, community integrity of plant communities, geographic patterns of each community. Describes plant communities, listing major and common species, habitat, elevational range, and local distribution of each. Lists taxa which terminate their distribution in or near the study area. Includes keys to species and a topographic map of the study area.
- MARTIN, W. C., C. R. HUTCHINS, AND R. G. WOODMANSEE. 1971. A flora of the Sandia Mountains, New Mexico. Albuquerque, NM: Sandia Press. Lists 884 taxa; annotations include species descriptions, elevational range, common names, and synonymy. Includes keys to species and glossary of botanical terms. Discusses geology, vegetation zones, and climate.
- MARTIN, W. C., AND W. L. WAGNER. 1974. Biological survey of Kirtland Air Force Base (East) [Microform]. Washington, D.C.: Government Printing Office; SAND-74-0393. Available from National Technical Information Service, Springfield, VA.

- Lists 369 taxa for 19,430 ha; annotated with common names, habitat, plant community. Describes topography, soils, climate; discusses biogeographical influences and disturbance patterns. Describes plant communities. Includes checklists of amphibians, reptiles, mammals, and birds.
- OSBORN, N. L. 1962. The flora of Mount Taylor. Albuquerque, NM: Univ. of New Mexico. Unpublished thesis. Lists 301 taxa; includes keys to species. Discusses life zones; describes collection sites in terms of geographic location, elevation, life zone, geological features, dominant species. Includes checklist of all species collected at each site. Compares flora to that of other mountain ranges.
- . 1966. A comparative floristic study of Mount Taylor and Redondo Peak, New Mexico. Albuquerque, NM: Univ. of New Mexico. Unpublished dissertation. Lists 231 taxa for Redondo Peak. Describes life zones, collection locations. Compares floras of the two peaks, listing species found on both. Compares populations of three species found on both peaks to detect possible evolutionary trends. Reviews paleobotany of the region. Includes keys to species.
- RIFFLE, N. L. 1973. The flora of Mount Sedgwick and vicinity. Albuquerque, NM: Univ. of New Mexico. Unpublished thesis. Lists 353 taxa; plant list annotated with collection locations. Briefly discusses geology and climate. Describes habitats of collection locations and lists dominant and interesting plants of each.
- ROBERTSON, C. W. 1968. A study of the flora of Cochiti and Bland canyons of the Jemez Mountains. Albuquerque, NM: Univ. of New Mexico. Unpublished thesis. Lists 373 taxa. Discusses topography, soils, geology, and climate. Describes plant communities of each elevational zone. Compares floras of Cochiti and Bland canyons. Provides keys to species; includes topographic map and photographs of topography and vegetation. Plant checklist is annotated with collection locations.
- SCHAFFNER, E. R. 1948. Flora of the White Sands National Monument of New Mexico. Albuquerque, NM: Univ. of New Mexico. Unpublished thesis. Lists 110 taxa for 56,757 ha; annotations include common names, local distribution, relative abundance, ethnobotanical notes, palatability for livestock, synonymy, and identification notes. Includes keys to species, photographs of vegetation, and topography. Discusses geology, topography, climate, collection history, and adaptation of plants to dunes. Lists gypsum indicator plants.
- TATSCHL, A. K. 1966. A floristic study of the San Pedro Parks Wild Area, Rio Arriba County, New Mexico. Albuquerque, NM: Univ. of New Mexico. Unpublished thesis. Lists 288 taxa. Briefly describes topography, soils, and climate. Discusses life zones, lists representative species. Describes nine major collecting locations in terms of elevational range, dominant plants, habitat. Provides keys to species. Includes location and physiographic maps, photographs of plant communities. Plant checklist annotated with collection locations.
- VAN DEVENDER, T. R., AND B. L. EVERITT. 1977. The latest Pleistocene and Recent vegetation of the Bishop's Cap, south central New Mexico. *Southwestern Naturalist* 22:337-352. Lists 118 taxa. Discusses climate, packrat ecology, modern and fossil floras in relation to climatic change. Lists 39 plant species found as macrofossils in packrat middens dating from 10,500 B.P.
- WAGNER, W. L. 1973. Floristic affinities of Animas Mountain, southwestern New Mexico. Albuquerque, NM: Univ. of New Mexico. Unpublished thesis. Lists 718 taxa for 96,000 ha; annotations of plant list include life form, habitat, relative abundance, geographic range, plant community, synonymy, taxonomic comments and endemic species. Describes climate and topography. Discusses factors in plant distribution and dispersal, evolution of the flora, and distributional patterns of the various life forms. Defines Northern Sierra Madre Biotic Province, analyzes geographic affinities of the flora and the plant communities. Describes collection sites and plant communities in terms of dominant perennials and characteristic annuals, elevational range, ecological factors and topographic location.
- WYNHOFF, J. T., E. LEHTO, AND D. J. PINKAVA. 1976. Vegetation of Cutler Canyon and vicinity, San Juan County, New Mexico. Washington, D.C.: U.S. Dept. of the Interior, Bureau of Land Management. Lists 436 taxa; annotations include relative abundance, common name, habitat. Includes photographs of habitat. *Fide* Donald J. Pinkava, Arizona State University.

UTAH

- ALLRED, K. W. 1975. Timpanogos flora. Provo, UT: Brigham Young Univ. Thesis. Lists 684 taxa for 15,544 ha; annotations of plant list include habitat, phenology, elevational range, and collector and collection number. Discusses history of botanical collection. Describes topography, climate, vegetation zones. Lists dominant and characteristic species of each vegetation zone. Includes keys to species.
- ARNOW, L. A. 1971. Vascular flora of Red Butte Canyon, Salt Lake County, Utah. Salt Lake City, UT: Univ. of Utah. Unpublished thesis. Lists 511 taxa for 2228 ha; annotations include species descriptions, common names, phenology, habitat, taxonomic comments, and plant associations. Briefly discusses topography, climate, geology, and history of botanical collection. Includes keys to species and glossary of botanical terms.
- ARNOW, L. A., B. J. ALBEE, AND A. M. WYCKOFF. 1980. Flora of the central Wasatch Front, Utah. Salt Lake City, UT: Univ. of Utah Printing Service. Available from Univ. of Utah Bookstore, Salt Lake City, UT. Lists 1139 taxa for 260,000 ha. Briefly discusses vegetation of elevational zones, climate, and topography. Annotations include synonymy, common names, species descriptions, phenology, habitat, and elevational range. Provides keys to species and an illustrated glossary of botanical terms.

- BUCHANAN, H., AND G. T. NEBEKER. 1971. Checklist of the higher plants of Bryce Canyon National Park, Utah. Ogden, UT: Weber State College Printing Dept. Lists 324 taxa. Describes and illustrates habitats of Bryce Canyon. Plant list annotated with common names. *Fide* Donald J. Pinkava, Arizona State University.
- CASTLE, E. D. 1954. The succession of vegetation on a southern Utah sand dune. Provo, UT: Brigham Young Univ. Unpublished thesis. Lists 65 taxa; annotations of plant list include plants collected near the dunes. Discusses physiography, climate, and dune plant morphology. Describes vegetation on active and stable dunes. Discusses plant succession, limiting factors for plants on sand. Includes photographs of vegetation and topography.
- FLOWERS, S., H. H. HALL, AND G. T. GROVES. 1959. Annotated list of plants found in Flaming Gorge Reservoir Basin. Pages 49-98 in A. M. Woodbury, ed., *Ecological studies of the flora and fauna of Flaming Gorge Reservoir Basin, Utah and Wyoming*. Salt Lake City, UT: Univ. of Utah; 1960. Anthropological Paper No. 48. Lists 448 taxa for river length of 142 km; annotations include relative abundance, habitat, elevational range, collection locations, and collector.
- GRAHAM, E. H. 1937. Botanical studies in the Uinta Basin of Utah and Colorado. *Annals of the Carnegie Museum*, Pittsburgh 26. Lists 1104 taxa for 3,108,808 ha; annotations include common names, relative abundance, habitat, collection location, elevation, vegetation zone, phenology and collector, collection date and number. Discusses history of exploration and settlement in Utah, history of botanical collection. Describes topography, climate, geology; vegetation zones, comparing them with those of surrounding areas; plant communities, listing dominant and secondary species of each. Eighty-nine collection locations are described in terms of location, plant community, elevation, and substrate. Discusses geographic affinities of flora; lists range extensions, new varieties, and species.
- HARRISON, B. F., S. L. WELSH, AND G. MOORE. 1964. Plants of Arches National Monument. Brigham Young Univ. Sci. Bull., Biol. Ser. 5(1):1-23. Lists 322 taxa for 29,696 ha; annotations include collection location and collector, relative abundance, habitat, local distribution, and common names. Briefly discusses climate, geology, and habitat. Lists endemics, discusses introduced species.
- HIGGINS, L. C. 1967. A flora of the Beaver Dam Mountains. Provo, UT: Brigham Young Univ. Unpublished thesis. Lists 667 taxa; annotations of plant list include geographic range, relative abundance, elevational range, collector, and collection number. Briefly describes geology, major plant communities, topography. Discusses history of botanical collection. Includes keys to species. Lists range extensions, endemic species.
- HOLMGREN, A. H. 1948. Handbook of the vascular plants of the northern Wasatch. 3d ed. Palo Alto, CA: National Press. Lists 1266 taxa, including many cultivated plants. Annotations include common names, habitat, local distribution, synonymy. Includes keys to species and glossary of botanical terms.
- LEWIS, M. E. 1973. Wheeler Peak area species list. Ogden, UT: U.S. Forest Service. Available from Intermountain Region, U.S. Forest Service, Ogden, UT. Lists 409 taxa; annotations of plant list include plant community, habitat, and relative abundance.
- MCMILLAN, C. 1948. A taxonomic and ecological study of the flora of the Deep Creek Mountains of central western Utah. Salt Lake City, UT: Univ. of Utah. Unpublished thesis. Lists 431 taxa; annotations of plant list include relative abundance, local distribution, and habitat. Describes physiography, climate, vegetation zones. Discusses history of botanical collection, effects of glaciation, phytogeography. Includes photographs of vegetation types.
- MEYER, S. E. 1976. Annotated checklist of the vascular plants of Washington County, Utah. Las Vegas, NV: Univ. of Nevada. Unpublished thesis. Lists 1207 taxa for 621,762 ha; annotations of plant list include habitat, local distribution, floristic component, synonymy, community type, collector, and collection date and number. Reviews history of botanical collection. Discusses physiography and geology; divides county into six topographic units and discusses the elevational range, accessibility, geology, and watersheds of each. Describes climate and soils and discusses climatic and edaphic factors affecting plant distribution. Describes community types and plant associations; discusses impact of grazing and land use on vegetation. Defines floristic components.
- MEYER, S. E. 1980. Capitol Reef National Park, revised working checklist. Torrey, UT: Capitol Reef National Park. Available from Capitol Reef National Park, Torrey, UT. Lists 472 taxa; plant list annotated with common names.
- NEBEKER, G. T. 1975. Manual of the flora of the East Tintic Mountains, Utah. Provo, UT: Brigham Young Univ. Unpublished thesis. Lists 211 taxa; annotations include habitat, geographic range, collection number. Briefly discusses topography, geology, plant communities. Includes keys to species.
- NELSON, R. A. 1976. Plants of Zion National Park. Springdale, UT: Zion Natural History Association. Available from Zion National Park, Springdale, UT. Lists 704 taxa for 59,307 ha; annotations include species descriptions, local distribution, relative abundance, habitat, and common names. Describes vegetation zones, discusses phenology. Includes keys to species, glossary of botanical terms, photographs of plant communities, and line drawings of many plants.
- PREECE, S. J., JR. 1950. Floristic and ecological features of the Raft River Mountains of northwestern Utah. Salt Lake City, UT: Univ. of Utah. Unpublished thesis. Lists 341 taxa; annotations include relative abundance, habitat, elevational range, collector, and collection location and number.

Describes topography and geology. Discusses history of botanical collection; vegetation types, correlating vegetation with substrate, climate, and grazing; and floristic elements and relation of flora to paleoclimate. Includes photographs of vegetation.

WELSH, S. L. 1957. An ecological survey of the vegetation of the Dinosaur National Monument, Utah. Provo, UT: Brigham Young Univ. Unpublished thesis. Lists 360 taxa for 30,352 ha; annotations of plant list include geologic formation, habitat, associated species, elevation, collector, and collection location and number. Describes geology, topography, and climate. Describes plant communities on different geological formations. Lists major species of each plant community, discusses trends in succession and edaphic factors in plant distribution. Includes photographs of geomorphological features, vegetation map, topographic map, and geological map.

WELSH, S. L., AND G. MOORE. 1968. Plants of Natural Bridges National Monument. Proc. Utah Acad. Sci., Arts, and Letters 45:220-248. Lists 224 taxa for 3148 ha; annotations of plant list include common names, relative abundance, habitat, collector, and collection location, date, and number. Describes plant communities in relation to topography and habitat.

LITERATURE CITED

- BOWERS, J. E. 1981. Local floras of Arizona: an annotated bibliography. *Madroño* 28:193-209.
- CHRISTENSEN, E. M. 1967a. Bibliography of Utah botany and wildland conservation. Brigham Young Univ. Sci. Bull., Biol. Ser. 9(1):1-136.
- . 1967b. Bibliography of Utah botany and wildland conservation, No. II. Proc. Utah Acad. Sci., Arts, and Lett. 44:545-566.
- CRONQUIST, A., A. H. HOLMGREN, N. H. HOLMGREN, J. L. REVEAL, AND P. HOLMGREN. 1972. Intermountain flora: vascular plants of the Intermountain Region, USA. Vol. 1. Hafner, New York.
- . 1977. Intermountain flora. Vol. 6. Columbia Univ. Press, New York.
- EWAN, J. 1936. Bibliography of the botany of Arizona. *American Midland Naturalist* 17:430-454.
- HARRINGTON, H. D. 1954. Manual of the plants of Colorado. 2d ed. Sage Books, Denver, Colorado.
- HOFFMAN, G. R., AND G. J. TOMLINSON. 1966. A bibliography of vegetational studies of Colorado. *Southwestern Naturalist* 11:223-237.
- HOLMGREN, A. H., AND J. L. REVEAL. 1966. Checklist of the vascular plants of the Intermountain Region.

U.S. Forest Service, Intermountain Forest and Range Experiment Station, Ogden, Utah. Research Paper No. 32.

JAEGER, E. C. 1941. Desert wild flowers. Rev. ed. Stanford Univ. Press, Stanford, California.

KEARNEY, T. H., AND R. H. PEEBLES. 1942. Flowering plants and ferns of Arizona. U.S. Dept. of Agriculture, Washington, D.C. Miscellaneous Publication No. 423.

———. 1960. Arizona flora. Univ. of California Press, Berkeley, California.

MARTIN, W. C., AND C. R. HUTCHINS. 1981. Flora of New Mexico. Lubrecht and Cramer, Monticello, New York.

SCHMUTZ, E. M. 1978. Classified bibliography on native plants of Arizona. Univ. of Arizona Press, Tucson, Arizona.

SHREVE, F., AND I. L. WIGGINS. 1964. Vegetation and flora of the Sonoran Desert. Stanford Univ. Press, Stanford, California.

TIDESTROM, I. 1925. Flora of Utah and Nevada. U.S. Nat. Herb. Contrib. 25.

TIDESTROM, I., AND T. KITTELL. 1941. A flora of Arizona and New Mexico. Catholic Univ. of America Press, Washington, D.C.

U.S. FISH AND WILDLIFE SERVICE. 1977a. Annotated bibliography of natural resources information: northwestern New Mexico. FWS/OBS-77/33.

———. 1977b. Annotated bibliography of natural resources information: southern Utah. FWS/OBS-77/34.

———. 1977c. Annotated bibliography of natural resources information: northwestern Colorado. FWS/OBS-77/35.

WELSH, S. L., AND G. MOORE. 1973. Utah plants; tracheophyta. Brigham Young Univ. Press, Provo, Utah.

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